

REMARKS

In the Office Action, claims 1-4 are rejected. With this paper, claims 1 and 4 are amended, claim 3 is canceled, and none are added. No new matter has been introduced with the amendment.

Claim Rejections under 35 USC §103

The Office rejected claims 1-4 based on the following grounds:

- 1. Claims 1, 3 and 4 are rejected under 35 USC §103(a) as being unpatentable over Japanese document 10-138,405 (JP-405 hereinafter) in view of Japanese document Kokai 62-101,421 (JP-421 hereinafter) and Takeuchi et al (US Publication 2003/0089808, Takeuchi hereinafter).*
- 2. Claim 2 is rejected under 35 USC §103(a) as being unpatentable over JP-405 in view of JP-421 and Takeuchi and further in view of Japanese document P3075431.*

With this paper, claim 1 is amended to incorporate limitations originally in claim 3, and claim 3 is canceled.

As acknowledged by the Office, the primary reference JP-405 lacks (1) a showing of the winding hardness of the film, (2) the thickness of the film, (3) using a metallic core and (4) a length of film wound being at least 1,000 meters (page 2, section 1 of the Detailed Action).

However, the Office states that the second reference JP-421 teaches the instant winding hardness and winding a film that is up to 25 microns in thickness, asserts that the instant thickness of 30-90 microns would have been obvious over 25 microns. The third reference Takeuchi is applied to teach a metal roller and employing a wound film length of at least 1,000 meters (page 2, section 1 of the Detailed Action).

Further regarding the second reference JP-421, the Office states that it clearly teaches a wound film roll with the instant hardness. Although the Office admits that the polymer films are not the same, once wound, the Office states that, the teaching of the roll

hardness for the PET film in JP-421 is applicable to other wound films (page 3, section 3 of the Detailed Action). Applicant respectfully disagrees with such an assertion.

JP-421 teaches a method for treating a polyethylene terephthalate (PET) film roll that comprises aging a roll of mono- or biaxial stretched PET film under humid conditions in high humidity atmosphere. The object is to improve dimensional stability of the PET film. In JP-421, it is disclosed that the film roll is made of a PET film (not a PVA film of the instant application) having a thickness of 6 to 25 microns. The film is wound around a core to a winding hardness of 88 to 96% as measured by JIS K 6301. JP-421 is different from the instant application at least in that (1) the thickness of the film is different (vs. 30 to 90 microns of the instant application), and (2) the film material is also different. Previously, Applicant demonstrated to the Office, through a face-to-face interview with the Examiner, that it is significantly easier winding a PET film than winding a PVA film. At least from the viewpoint of the winding properties, PVA based films and PET based films are not equivalent. Although measuring the surface hardness of a PET film roll of 6-25 microns thickness is disclosed in JP-421, controlling the surface hardness in winding a roll of polyvinyl alcohol film of 30-90 microns thickness is not disclosed or suggested. JP-421 not only pertains to a different film material, but it also pertains to a film thickness range that is completely different from that of the instant application. Since JP-421 neither teaches nor suggests winding a PVA film of 30 to 90 microns thickness, it is not obvious within the skill level of the art to apply the technique of JP-421 for winding a PVA film of the instant application.

Compared to the instant application, JP-421 lacks (1) a showing of the winding hardness of a roll of PVA film, (2) a showing of the thickness of the PVA film being 30-90 microns, (3) using specifically a metallic core, and (4) a length of film wound being at least 1,000 meters. Note that for 1,000 meters of film, a thinner film (6-25 microns) would have much less winding thickness on the core than a thicker film (30-90 microns). Therefore, with the same length of the film (e.g. 1,000 meters), the influence of the hardness of the core to the surface hardness of the film roll would have been much larger with the thinner

PET film of JP-421 than with the thicker PVA film of the instant application. This issue was discussed in the previous Office Action and claim 1 was amended as the result to add the 1,000m limitation in order to ensure the surface hardness is contributed by the film, not the core.

The third reference, Takeuchi, teaches a film roll wherein surface hardness values measured at ten positions along the direction of the core are satisfied with a specific equation. The film roll is particularly used as a base film for a magnetic recording medium. The film materials of Takeuchi are polyester or polyamide resins, similar to that of JP-421, and are not PVA based. The preferred thickness of the polyester or polyamide resin film is 10 microns or less (paragraph [0014]), which is much thinner than the thickness of 30 to 90 microns in the instant application. Again, 1,000 meters of a film of 10 microns thickness would have much less winding thickness on the core than a thicker film (30-90 microns) of the same length. Therefore, the influence of the hardness of the core to the surface hardness of the film roll would have been much larger with the thinner film of Takeuchi than with the thicker PVA film of the instant application.

Both Takeuchi and JP-421 teach winding polyester, polyamide, or the like, film on a core. The films in Takeuchi and JP-421 are used as a base film for a magnetic recording medium (paragraph [0014] of Takeuchi and English translation of JP-421). The films of Takeuchi and JP-421 are materially different from the polyvinyl alcohol film of the present invention, which is used as, for example, a polarizing film for display devices. As submitted previously, PVA films are hydrophilic. Therefore, a very strict control of the winding conditions, including humidity, is required for winding the PVA film around a core. On the other hand, a PET film is hydrophobic, much less affected by the humidity and it can easily be rolled up. Such being the case, the two films are not recognized as being equivalent in forming a roll.

Summarize the above, none of the cited references, whether taking alone or in combination, teaches winding a PVA film of a thickness between 30 and 90 microns in such a way that the surface hardness of the film roll, with a total thickness of the PVA

film on the core being no less than that of a 1,000 m length of the film on the core, is set to a Shore A hardness of 60 to 95.

And, by virtue of the characteristics as set forth in claim 1 as the essential requirement, such effects and results can be attained that no wrinkles or scratches are formed on the film rolled up and no blocking among the film is generated, whereby a film having good appearance and homogeneous quality can be obtained, and further that a polarized film prepared from the polyvinyl alcohol film is not accompanied with uneven stretching even a stretching process step upon preparation of the polarized film so that a polarized film having excellent polarizing properties can be obtained.

Additionally, in the present invention, the surface hardness of the rolled up film is, as described in the paragraph from [0025], dependent upon a rolling up method (near-rolling up, touch-rolling up), a molding material of the guide roll 2, hardness, rolling up tension, etc. Attention should be paid to the effect of the guide roll (originally in claim 3), which is disposed in the vicinity of the cylindrical core for aiding the rolling up of the film. This guide roll is important in ensuring the hardness of the film roll in the range specified in claim 1 and thus it is incorporated into claim 1.

None of the references cited by the Office teaches or suggests a guide roll disposed in the vicinity of the cylindrical core and the film is rolled up around the cylindrical core by passing the film between the core and the guide roll in the state that a space between said core and the guide roll is maintained during the rolling up operation or in the state that said guide roll is in contact with said cylindrical core through the running film, as recited in the amended claim 1.

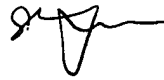
Based on the foregoing, the currently amended claim 1 is patentable. Applicant respectfully requests the rejection of claim 1 be reconsidered and withdrawn.

Claims 2 and 4 depend from claim 1. Since claim 1 is believed to be patentable, claims 2 and 4 are also patentable. Applicant respectfully requests the rejections of claims 2 and 4 be reconsidered and withdrawn.

Conclusion

For all the foregoing reasons, it is believed that all the remaining claims of the instant application are patentable, and their passage to issue is earnestly solicited. Applicant's agent urges the Examiner to call to discuss the present response if anything in the present response is unclear or unpersuasive.

Respectfully submitted,



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